Statement Before the Joint Meeting of
Food Safety and Inspection Service and
Food and Drug Administration

Public Meeting on
THE EGG SAFETY ACTION PLAN
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Testimony Presented By

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RESPONSES TO AGENCY PROVIDED GENERAL QUESTIONS REGARDING THE *EGG SAFETY ACTION PLAN*

1. *Does the Egg Safety Action Plan comprehensively cover the problem of Salmonella enteritidis (SE) in eggs and measures for reducing this hazard? If not, what should the Plan include to be more complete?*

   RESPONSE: *The Egg Safety Action Plan* is not comprehensive enough. More quality assurance provisions need to be added to improve the quality and safety of eggs. For example, although the Administration's Plan calls for a HACCP-based system for shell egg processing, the Plan does not prohibit repackaging of eggs nor does it call for code dating of shell egg cartons. Both of these components would further strengthen the efforts towards reducing SE in eggs.

2. *What are the costs and benefits of implementing each risk reduction component in the Action Plan?*

   RESPONSE: Costs: *The Egg Safety Action Plan* calls for environmental testing of chick papers; pullets at 12-14 weeks; layers at 25-30 weeks and post-molt, if molted and 2-4 weeks prior to depopulation. It appears that the Administration's Plan is to "test its way to safety".

   A testing program should be used to verify the efficacy of the quality assurance program and I am supportive of a testing component that verifies the effectiveness of my quality assurance efforts. In that regard, *The Egg Safety Action Plan* has the testing component for implementation in FY 2001 while the Plan's development of a HACCP-based system – or quality assurance program has a timeline for a final rule in FY 2003. I feel the quality assurance program should precede the testing component with the Plan's purpose being the verification of the quality assurance program.

   Let me describe the aspects that will increase the cost of producing eggs. To gauge the economic impact of the degree of verification proposed by the Plan, we assume a base of 260 million laying hens in the United States. It has been calculated that a "row" for collecting swabs to test for SE could represent

2,000 birds. Nationwide, this would total 130,000 rows. But, individual rows may differ by as many as 10 times depending on individual circumstances. If the number of samples over a flock's two year life is four and each row would be sampled twice at each sampling, 520,000 samples per year would be taken (130,000 rows x 2 samples per row x 2 samples per year [4 total]).

The costs to sample would include:

- Collection of samples
- Training of technicians
- Cost of laboratory tests for each pool

Adjusting for variables, the costs for each sample will approach $45.00 for a total cost exceeding $23 million per year...and that is environmental testing costs alone. This is a large burden to put on the producers and ultimately, to pass onto the public.

If a flock were found to be environmental positive, a series of additional tests would begin as would a diversion of eggs away from traditional shell egg markets to the breaking market for pasteurization. This is assuming that the egg breakers will even accept eggs testing positive for SE. The losses from diverting the eggs from the traditional shell egg market to the breaker market could run as high as 15¢ per dozen. This represents a weekly loss in income for $4,500 to $6,000 per week for a 100,000 bird house plus the shipping costs associated with a diversion of 1-3¢ per dozen.

Benefits: I would like to focus on the overall risk of contracting a foodborne illness associated with eating eggs, providing some perspective on the benefits of implementing risk reduction plans. The President's Council on Egg Safety has identified egg safety as one component of this public health issue that warrants immediate federal, interagency action in spite of the low risk of egg contamination. The risk assessment has been determined by *The SE Risk Assessment Final Report* prepared by the Food Safety and Inspection Service based on a risk model of 1 egg in 20,000 eggs or 0.005% which is several orders of magnitude lower than for most animal product standards.

When President Clinton made his radio address last December, using this risk model, he stated that there were 3.3 million *"infected"* eggs that could lead to human illness. Unfortunately, this risk is overstated as the President's advisors neglected to point out to him that nearly 30% of all eggs produced

are broken into liquid form and pasteurized. Overstating the potential risks by 30% is a serious misstatement that may have damaged the reputation of eggs and the egg industry. I would hope that greater efforts by the federal government would be directed toward accurate risk communication, including clear and concise press releases in order to avoid unjustly disparaging this commodity.

3. *What training should be associated with respect to each component of the Action Plan?*

RESPONSE: Training and education must be assigned the highest priority from "farm to table" for the Plan to maintain its integrity.

Producer/Processor Level: A nation-wide training program based on ones such as the established California Egg Quality Assurance Plan (CEQAP), United Egg Producers Comprehensive Grading/Inspection/Quality Assurance Food Safety Program, Pennsylvania Quality Assurance Program (PEQAP), United States Animal Health Association (USAHA) SE Reduction Program and equivalent plans must be utilized to address each component of the Action Plan.

Distributor/Consumer Level: Proper food handling and preparation is the **final line of defense** in providing food safety for the consumer. In 1997, 71% of the SE outbreaks were in foodservice or institutional settings. In analyzing the 2,423 outbreaks of foodborne illness reported to the CDC between 1988 and 1992, the most common practices contributing to foodborne disease included improper holding temperatures and the poor personal hygiene of foodservice workers.

All consumers must be reminded that there is a risk if food is mishandled or not prepared properly and where good personal hygiene is overlooked.

Enforcement for Consistent Standards: The Egg Safety Action Plan's proposed collaborative outreach activities with various State and local food safety programs such as CEQAP, PEQAP, etc. are of some concern to me. I foresee problems unless the organizational structure can be verified and enforced by a federal system that has proven results in consistent enforcement. I am supportive of the organizational structure for enforcing egg safety standards within the USDA Agricultural Marketing Service (AMS). The proven track record for enforcing consistent grading standards through the AMS voluntary shell egg grading service demonstrates the degree of effective communication

necessary between the industry and government to achieve success. This organizational structure must be on the federal level of enforcement and verification of egg safety standards. This is recommended as the most efficient, most effective and most cost effective vehicle for achieving this objective.

4. *Are the following appropriate and adequate components for a nationwide SE reduction program: bio-security, SE-negative feed, chicks from SE-monitored breeders, flock health monitoring program, cleaning and disinfection of houses, rodent/pest control, monitored water supply?*

   RESPONSE: The listed are both appropriate and adequate components provided there is a comprehensive training component in the Plan which addresses the implementation of each segment of the program on a consistent basis, nationwide.

5. *How effective do you think each component would be? Which component(s) do you think will provide the most risk reduction?*

   RESPONSE: The effectiveness of each component is undetermined at this time. I believe that each of the components listed comprises a critical link in the chain which is the Plan. They perform sequentially and there can be no weak or missing links.

6. *Is environmental testing an appropriate verification step to ensure that the risk reduction plan is working? If so, how often and when should testing be performed to ensure that the plan is working and that the consumer is protected from consuming SE-contaminated eggs?*

   RESPONSE: Please refer to the California Egg Quality Assurance Plan (CEQAP) for my recommendations.

7. *In the event that an environmental sample for SE is positive, what, if any, additional steps should a producer be required to take with the positive flock/house and with the next flock that will be placed in that house?*

   RESPONSE: Please refer to the California Egg Quality Assurance Plan (CEQAP) or equivalent for my recommendations.

8. *Where vaccines have been used, is there a correlation between vaccine use and reduction of SE in eggs?*

RESPONSE: Vaccines are demonstrating an effectiveness in controlling SE. In research conducted at the USDA/Agricultural Research Service, Dr. Peter Holt found that after incubation, there were 100 million SE organisms per ml in the non-vaccinated group and only 100 SE organisms per ml in the vaccinated group...a one million fold reduction. This research is published in Food Microbiology 13:P 417-426, 1996 "*Growth of Salmonella enteritidis (SE) in Egg Contents from Hens Vaccinated with SE Bacterin*", Holt, P.S. et al. Great Britain and Germany both vaccinate laying chickens for SE. A responsiveness by the agencies in recognizing the usefulness of vaccines for controlling SE in the United States is urgently needed and modifications in the FDA Traceback Program are needed to allow for the use of vaccines.

9. *In the event eggs from an SE-positive layer flock are diverted from the table egg market, what measures should be implemented to ensure those eggs are pasteurized?*

   RESPONSE: Require USDA "restricted" labeling and following through the post-pasteurization testing stage of manufacture.

10. *In the event eggs from an SE-positive flock are diverted to the production of liquid, frozen, or dried egg products, should the eggs be handled or processed differently? Indicate the cost associated with the described process.*

    RESPONSE: The drying or pasteurization process for liquid and frozen eggs would be all that is required. Unable to determine extra costs which might be incurred.

11. *Do customer specifications exist that prohibit the processing of SE-positive eggs for egg products? Considering your production volume and available market for egg products, will this influence the price for SE-positive eggs?*

    RESPONSE: I am not aware of any customer specifications, beyond pasteurization, which would prohibit their use of diverted SE-positive eggs. The influence on the price of the further processed eggs would be dependent on the volume of eggs diverted. A huge diversion would result in an immediately depressed market.

12. *What is an estimated cost to implement the proposed components of a HACCP-based system, including adequate good manufacturing practices to minimize the growth of SE and prevent cross-contamination, for each of the following processing operations (include only the new costs incurred such as record keeping, company verification on a continuing basis, and revised processing procedures for conformance):*

minimize the growth of SE and prevent cross-contamination, for each of the following processing operations (include only the new costs incurred such as record keeping, company verification on a continuing basis, and revised processing procedures for conformance):

a. *Packer of shell eggs for the consumer?*
b. *In-shell pasteurization of eggs?*
c. *HACCP in egg products establishments?*

RESPONSE: I believe there will be substantial costs associated with implementing effective, successful, validated HACCP Programs in each of the three types of operations cited. Specific cost breakdowns are not available at this time.

13. *For the development of a performance standard(s) for the thermal processing of liquid eggs and other egg products, we are requesting information regarding the enumeration of SE in liquid eggs prior to pasteurization.*

RESPONSE: No Comment. This information should be secured from a Microbiologist

14. *What is the cost of maintaining refrigerated storage (maximum temperature 60° F) for eggs received that are destined for grading and packaging or in-shell pasteurization, when time to processing will exceed 24 hours from time of lay?*

RESPONSE: As an example, it would cost approximately $100/week for refrigeration to maintain 1,000 cases of shell eggs.

15. *Are there any methods by which a packer/processor can determine how old eggs are when they are received?*

RESPONSE: The USDA Agricultural Marketing Service (AMS) has been grading eggs for years and uses the size of the air cell as a gauge for quality and a barometer on the age of the egg. The Haugh Unit Test is another measure of egg age and quality which is used in the industry. Most eggs are purchased through the Egg Clearinghouse, Inc. (ECI) who provides a AA percentage guarantee with their sales. Eggs beyond a certain age will not meet this specification.

sanitized with a chlorine additive before leaving the processing plant for reuse on the ranch .

17. *Are the proposed components of the national standards for packing and processing of shell eggs and egg products appropriate and adequate to reduce the risk associated with SE?*

RESPONSE: No comment.

18. *Do the provisions in the 1999 Food Code which apply to shell eggs adequately protect at-risk consumers in retail establishments? If not, what other provisions are necessary for their protection? (Note: The 1999 Food Code is available on the Internet under "Federal/State Food Programs" at* www.cfsan.fda.gov).

RESPONSE: No comment.

19. *Rewashing of shell eggs is a wide-spread industry practice. Are there data or research to support it? If it is disallowed, what economic effect will it have on the shell egg industry?*

RESPONSE: Eggs should be washed as soon after lay as possible until clean, using a water temperature and sanitizer appropriate to accomplish this. If a significant number of eggs were not allowed to be re-washed and diverted to breakers, a definite economic hardship would result.

20. *What research on SE in eggs is already underway and what additional research to assist producers, packer/processors, and retailers in proper practices?*

RESPONSE: Information for on-going research may be obtained from the Egg Nutrition Center, CEQAP and various other industry organizations.

21. *To what extent are you already engaging in the following practices:*

RESPONSE:

a. *Use of chicks from National Poultry Improvement Plan (NPIP) SE-monitored breeders?*

100% of our chicks are from NPIP SE-monitored breeders.

b. *Rodent/pest control?*

A thorough program is maintained with a designated, full-time administrator. We believe this program to be very effective in controlling rodents and pests.

c. *Bio-security?*

All production facilities are "Quarantined Areas" with traffic control and disinfectant spray-down of all vehicles required.

d. *Cleaning and disinfecting?*

At most locations, daily or bi-weekly manure removal is performed and a high pressure disinfectant spray-down of each laying house is conducted after each push-out.

e. *Use of monitored water supply?*

Water for all our facilities is supplied by municipal water districts through the Metropolitan Water District of Southern California which practices very stringent microbiological controls and performs well tests two or more times per year.

f. *Use of SE-controlled feed?*

All rendered feed ingredients purchased are certified SE-free.

22. *Testing for verification on the on-farm plan. We are interested in your answers to the following questions for both environmental testing and egg testing:*

RESPONSE:

a. *To what extent are you currently testing?*

Testing chick papers and at two weeks before push-out.

b. *What is the sampling plan for the tests you conduct?*

All sampling is done as prescribed by CEQAP:

- Chick papers: 10% sample, 10 papers/pool
- Two Weeks Before Push-out: 16 swabs, 4 pools with 4 samples

c. *What tests do you use? Do you test for the presence of Salmonella, SE, SE stereotypes, etc?*

We request tests for Salmonella, Group D and if a SE positive Group D result is received, for SE stereotypes utilizing the California State Laboratory Testing Protocol. The combined lab and on-farm cost for testing is approximately $45 per test.

23. *How much would it cost you to implement each of the proposed components of the risk reduction plan? (Note: the costs you estimate should be the new costs you will bear in excess of what you are already spending on risk reduction.)*

RESPONSE: No comment, information not available at this time.

24. *What are the current market prices or costs you pay or get for the following:*

RESPONSE:

a. *Chicks from NPIP SE-monitored breeders versus chicks from non-certified breeders?*

We only purchase from NPIP SE-monitored breeders; current cost is 62¢ per bird.

b. *Grade A/B eggs versus breaker eggs?*

Up to a 15¢ per dozen higher than for breakers.

c. *Dry cleaning versus dry, wet disinfecting poultry houses?*

Capacities of houses differ but we estimate the cost for the two processes combined to be $3-5,000. per 100,000 birds.

d. *SE-controlled feed versus noncontrolled feed?*

None, unless lab test costs are incurred.

25. *Can you get replacement chicks/pullets at a time different from your usual lay cycle? If so, what price premium, if any, would you have to pay to get these birds?*

RESPONSE: Generally replacements are not available. If they are, the premium would run 50-75%.

26. *Do you currently vaccinate your layers for SE? At what time(s)? What does it cost?*

RESPONSE: No.

27. *Before processing or shipping for processing, are your eggs stored on the farm in an environment that is not temperature controlled? For how long? If so, what temperatures are the eggs stored at and how long do they stay in storage?*

RESPONSE: Eggs are stored on the farm in a 50° temperature controlled environment for one day.

28. *When you ship your eggs from the farm to the processor/packer, do you reuse packing materials? What steps are taken to minimize any bio-security hazards that may arise from such a practice? How much would it cost to sanitize or use new packing materials for each egg shipment?*

RESPONSE: Plastic flats are used and disinfectant-washed prior to leaving the processing plant. Substantial costs would be incurred if new flats had to be purchased and the once-used flats disposed of in land fills.

29. *To help us understand the viewpoint from which you are making your comments, it would be helpful for us to have some information about the structure of your firm. This will help us to determine whether your comment represents an additional perspective that we should consider. Answers to the following questions would be useful:*

RESPONSE:

a. *In what state(s) do you currently operate?*

California and New Mexico

b. *How many layer houses do you have?*

122

c. *What style of house(s) is typical for your operation?*

A mixture of 2/3 open-sided California Style and 1/3 enclosed, environmentally-controlled houses

d. *What is the average number of layers in each house?*

25,000 layers

e. *Is yours an in-line or an off-line operation?*

50/50

f. *Do you currently molt your layers? If molting is used, when is it used?*

Birds are molted at 64 weeks

CONCEPTUAL FRAMEWORK FOR:

A STREAMLINED NATIONAL COMPREHENSIVE GRADING/INSPECTION/ QUALITY ASSURANCE FOOD SAFETY PROGRAM FOR SHELL EGGS

SUBMITTED FOR CONSIDERATION BY:

UNITED EGG PRODUCERS

AUGUST 1999

DISCUSSION PAPER – CONCEPTUAL FRAMEWORK FOR:

STREAMLINED GRADING/INSPECTION/QUALITY ASSURANCE FOOD SAFETY PROGRAM FOR THE SHELL EGG INDUSTRY

United Egg Producers (UEP), proposes that the egg industry in cooperation with those government agencies charged with the responsibility of food safety, grading, and inspection, consider a comprehensive farm to table approach for the purpose of achieving the ultimate food safety program.

UEP, a national cooperative representing approximately 80% of the shell egg industry and on behalf of its Board of Directors hereby submits the following proposal.

This conceptual framework will include at least *ONE DOZEN* "Eggceptional" ways to improve egg quality and safety. They include:

1. **Quality Assurance Program based on HACCP provisions at the farm and shell egg packing plants and enforced by USDA/AMS (or) USDA/APHIS.**
2. **Uniformity among all egg producers and packers in addressing food safety.**
3. **A streamlined monitoring program for grading/inspection and surveillance of shell egg plants administered by USDA/AMS.**
4. **Change from continuous inspection to a "continuous monitoring of performance standards" program for shell egg plants.**
5. **Requirements for shell egg refrigeration at storage and transportation.**
6. **Requirements regarding repackaging of shell eggs.**
7. **Requirements regarding the "dating" of shell eggs.**
8. **A validation testing component with incentives for using an SE vaccine.**
9. **Uniform traceback procedures of shell eggs.**
10. **Documentation, verification and third party validation procedures.**
11. **Taxpayer funded – consistent with Meat & Poultry Inspection programs.**
12. **Indemnification to producers who divert eggs from the table egg market to pasteurization as a result of the flock being S.E. positive.**

While UEP has, in the past, provided testimony in opposition to the creation of a new "single food safety agency", we now will submit a proposal that a "single food safety agency" be establish for the egg industry under the auspices of USDA/AMS Poultry Grading Branch.

The USDA/AMS Poultry Grading Branch currently offers a Voluntary Resident Shell Egg Grading Service to the shell egg packing plants of which only about 30% of the nation's eggs are packed. Additionally, USDA/AMS provides and administers a quarterly inspection program for all shell egg packing plants in the U.S.

We will propose that ALL shell egg packing plants come under a mandatory streamlined grading and inspection program. One, that is less than a continuous inspection basis but instead, on an "as needed performance basis". The program provides grading and inspecting by size and quality of shell eggs. Additionally, the program will monitor for food safety/quality assurance programs including plant sanitation and good manufacturing practices. This quality assurance program would apply to both egg production and packing plants.

We will propose that as part of this mandatory program that no eggs packed for the ultimate consumer may be older than 21 days from the date of lay.

We will propose that as part of this mandatory program that those eggs packed for retail sales must carry an "expiration date" or "sell by date" of no more than 30 days from the packing date (or) a "use before" "use by" "best before" date of no more than 45 days from the date of pack.

We will propose that any eggs returned to the packer from grocery stores, store warehouses, and institutional accounts be prohibited from repackaging. These eggs will be diverted from the table egg market to the further processing market for pasteurization.

We will propose that all egg packaging carry a label that says "Keep Refrigerated". The refrigeration requirement will be consistent with the law being implemented on August 27, 1999 by USDA that requires all eggs packed for the ultimate consumer to be stored and transported at 45 degrees ambient temperatures.

We will propose that all eggs sold in retail carry a Safe Handling Instruction Label that says, "Keep Refrigerated – Eggs are not to be eaten raw or undercooked".

We will propose that all eggs sold to institutional accounts carry on the egg case or the invoice a Foodservice Safe Handling Instructions that says, "Some eggs may contain bacteria that could cause illness if the product has been cross-contaminated, mishandled or cooked improperly. For your protection, follow these safe handling instructions."

We will also propose that all egg production farms and shell egg packing plants follow the provisions of a HACCP type program such as the "5-Star" Total Quality Assurance Program developed by UEP.

The "5-Star" Program identifies five (5) critical points in the production and packing process to be monitored. Those points are:

- Poultry House Cleaning and Disinfecting
- Rodent and Pest Elimination
- Proper Egg Washing
- Biosecurity
- Refrigeration

Additionally, the program includes a testing component for validation to be sure the program is working. The program will also require that record keeping forms be kept on each of the five points.

We will propose that third party monitoring of the producer/packer "5-Star" Total Quality Assurance HACCP type program be provided by either USDA/AMS Poultry Grading Branch and or USDA/APHIS Veterinary Services. This monitoring will include the provisions as outlined in a MOU between UEP and APHIS, dated July 21, 1999 and is included as an attachment to this proposal.

We will propose that the current FDA traceback program for S.E. is replaced with one submitted by UEP to FDA in May 1999 and is now included as an attachment to this proposal.

We will propose that indemnification be provided to producers whose flocks have been found to be positive with the S.E. bacteria. This is similar to animal health threats i.e. avian influenza and the federal government's program for indemnification human health threats i.e. salmonella should be included in programs for indemnification at the dollar value of difference between the shell egg market value and breaking stock egg value.

We will propose that this program be taxpayer funded. USDA currently provides funding to carry out inspection programs for meat and poultry inspection and egg product inspection. Funding should be provided, likewise, for the grading and inspection program for shell eggs.

Conclusion: It is in the best interest of egg producers and packers to implement programs that provide the best science based food safety programs possible for our consumers. It is also in the best interest of government to work with the egg industry to centralize all egg inspection and food safety programs into one agency that has a successful history of providing quality service to both the shell egg and egg product industry. There is no value in creating a new agency that may have

very little if any experience in the egg industry and thereby waste time in the training of new inspectors.
Our proposal simply makes common sense by utilizing, in a streamlined way, resources that are already in place. Efficient, effective use of these resources is what we propose.

One of the failures of the current FDA traceback program may be in the program's design. To be effective in achieving the goal of reducing foodborne illness, any on-farm program should begin before a human illness outbreak occurs, and serve to prevent, to the extent possible, an outbreak in the first place and certainly to reduce the inherent risks associated with foodborne illness.

We call upon government to join in and further help the egg industry by conducting a review and evaluation of programs in food preparation at the food service level. We also call upon government to review and evaluate recommendations for educating consumers on food preparation in the home.

We believe that the streamlined comprehensive program being proposed by UEP addresses most, if not all, the concerns expressed by consumers, government agencies and the industry.

The egg industry remains committed to the implementation of food safety programs and looks forward to cooperatively working with government to achieve the goals set forth in the program being proposed by UEP.

DISCUSSION PAPER

"A COMPREHENSIVE STREAMLINED GRADING, INSPECTION, QUALITY ASSURANCE FOOD SAFETY PROGRAM FOR SHELL EGGS"

"It's a program whose time has come" - A program of integrity in that it applies to all U.S. egg production in a uniform comprehensive way. A program that responds to the needs and concerns of consumers, industry and regulatory officials.

For the first time, this bold and innovative proposed program incorporates or embraces all the multi-agency responsibilities and resources, adds the cooperation and leadership of the industry, to achieve an effective food safety program for shell eggs.

The egg industry has repeatedly responded, in a pro-active way since food safety concerns were first raised in 1988. Some of the industry initiatives include:

- **Established the S.E. Task Force and obtained funding from Congress**
- **Called for breeder testing through NPIP**
- **Supported eggs being on FDA's potentially hazardous food list**
- **Proposed and supported a National Refrigeration Law**
- **Recommended liquid pasteurized egg product be used in food service and institutional settings**
- **Developed vaccines**
- **Sponsored HACCP workshops for egg production and processing**
- **Published egg handling and preparation tips for food service and consumers**
- **Established the S.E. Risk Assessment Working Group**
- **AEB became a founding member in partnership with the White House on President Clinton's Food Safety Initiative**
- **Developed food safety (Quality Assurance Programs) for egg production and processing**

The industry has on numerous occasions stepped up and submitted testimony on a variety of issues. It has, among other things, made repeated requests related to modifying the proven ineffective traceback program, encouraged the adoption of a uniform national quality assurance program, and the approval of vaccines as well as submitted research priorities.

Let's take a look at the conceptual framework of such a program.

TESTING COMPONENT FOR VALIDATION OF QUALITY ASSURANCE FOOD SAFETY PROGRAM

Submitted as part of a Streamlined National Comprehensive Grading/Inspection/Quality Assurance Food Safety Program for Shell Eggs

For reasons of biosecurity, producers should only purchase day old chicks from hatcheries participating in the National Poultry Improvement Plan (NPIP) *"U.S. Sanitation Monitoring Program"* and should require of their chick or pullet supplier the NPIP document Form 9-3 that certifies that the breeder company has participated in the NPIP program.

TESTING

Two to three weeks prior to depopulation of the layer house, environmental sampling consisting of two (2) drag swabs per manure bank must be conducted.

If environmental tests are SE negative, no further testing is required, however, a vaccination program to assure continued negative status would be recommended. Vaccines should not be considered as a replacement for Quality Assurance Programs but as an added protection.

If environmental tests are SE positive, then extra cleaning and disinfecting procedures should begin immediately upon depopulation plus the following actions taken:

1. **Replacement flock should be vaccinated with an approved live or killed SE vaccine prior to the onset of egg production.**
2. **Conduct a review of steps taken in the Quality Assurance Program and review of records to identify potential problems.**
3. **Institute a third party walk through of facility, after cleaning and disinfecting for visual inspection. Third party representatives may be from Extension Service, State Veterinarian, USDA/AMS, USDA/APHIS, University Q&A Specialist, or equivalent.**
4. **Conduct egg tests from 1% of one day's production at 30 weeks of age and again if and when the flock is molted. Eggs from molted flocks should be tested once hens have returned to production. If egg tests are**

found to be positive then egg diversion to pasteurization should be implemented until the first additional egg tests provide negative results.

5. Two to three weeks prior to the flock depopulation environmental testing should again be conducted.

TESTING OF NON-VACCINATED HOUSES

Layer houses found to be SE positive at two to three weeks prior to depopulation (*and a vaccination program has not been implemented*) would be required to implement the following actions:

1. Conduct a review of steps taken in the Quality Assurance Program and review of records to identify potential problems.
2. Institute a third party inspection of the facility and QA Program.
3. Conduct environmental testing of the facilities at 30 weeks of age and again if and when the flock is molted. Environmental test of molted flocks should be tested once hens have been returned to production.
4. If environmental test are positive then eggs must be diverted to pasteurization until egg test of 1% of one day's production have indicated a negative egg test.
5. Conduct environmental tests again two to three weeks prior to depopulation.

Major difference between the two programs is that non-vaccinated flocks would be required to conduct environmental test of facilities at 30 weeks of age and after the flock has completed the molt while vaccinated flocks may skip this test and go directly to egg tests.

If a human illness outbreak should warrant an FDA traceback to the farm, then those layer houses using a vaccination program as a component as part of the Total Quality Assurance Program would be exempt from environmental tests and only egg tests conducted.